



Attorney Docket No: <sup>#6</sup> S00085  
10/5/01  
JD

## In the United States Patent and Trademark Office

Application No.: 09/821,701  
Filed: 3/28/2001  
Title: Multiple Channel Optical Frequency Mixers for All-Optical Signal Processing  
Applicant(s): Chou, et al.  
Examiner: not yet assigned  
Art Unit: 2661

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Mailed ~~10/5/01~~  
Santa Clara, CA

### Information Disclosure Statement

Commissioner of Patents and Trademarks  
Washington, District of Columbia 20231

Dear Sir or Madam:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon. It is requested that the document(s) on the enclosed form be made of record.

#### Part I (Authority)

This statement is filed pursuant to:

(X) 37 C.F.R. § 1.97(b).

This information disclosure statement is filed either (1) within three months of the filing date of the national applications; (2) within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or (3) before the mailing date of a first office action on the merits, whichever event occurs last.

Accordingly, this information disclosure statement requires no fee and no certification.

( ) 37 C.F.R. § 1.97(c).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(b), but before the mailing date of either (1) a final action under 37 C.F.R. § 1.113 or (2) a notice of allowance under 37 C.F.R. § 1.311.

Accordingly, this information disclosure statement requires either the fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) (\$240), or a certification according to 37 C.F.R. § 1.97(e).

( ) 37 C.F.R. § 1.97(d).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(c).

Accordingly, this information disclosure statement requires the petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) (\$130), a certification according to 37 C.F.R. § 1.97(e), and a petition requesting consideration of the information disclosure statement.

#### Conditional Petition

It is respectfully requested that this information disclosure statement be considered, good cause being presented in Part III herein (certification). please treat this paper as the required petition.

If this statement crosses in the mail with an office action, or is otherwise not in the indicated category of 37 C.F.R. § 1.97, it is respectfully requested that this statement be treated in the next appropriate category and made of record.



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Sheet 1 of 1

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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE	ATTY. DOCKET NO. S00-085	SERIAL NO. 09/821,701
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)	APPLICANT Chou, et al.	
	FILING DATE 3/28/2001	GROUP 2661

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	RELEVANT INFORMATION
	A	5 9 1 2 9 1 0	6/15/99	Sanders, et al.	372/22
	B	6 0 2 1 1 4 1	2/1/00	Nam, et al.	372/20
	C	5 8 1 5 3 0 7	9/29/98	Arbore, et al.	359/328
	D	5 8 6 7 3 0 4	2/2/99	Galvanauskas, et al.	359/333
	E	5 8 2 5 5 1 7	10/20/98	Antoniades, et al.	359/117
	F	5 6 4 4 5 8 4	7/1/97	Nam, et al.	372/20
	G	5 4 3 4 7 0 0	7/18/95	Yoo	359/332
	H				

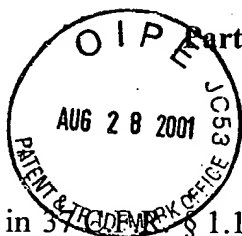
**FOREIGN PATENT DOCUMENTS**

		2- letter code	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION
						YES NO
	I					
	J					

**OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

	K	S.J.B. Yoo, "Wavelength Conversion Technologies For WDM Network Applications," Journal of Lightwave Technology, Vol.14, No. 6, June 1996, pp. 955-66
		J.P.R. Lacey; S.J. Madden; and M.A. Summerfield, "Four-Channel Polarization-Insensitive Optically Transparent Wavelength Converter," IEEE Photonics Technology Letters, Vol. 9, No. 10, Oct. 1997, pp. 1355-7
	L	M.L. Bortz, "Quasi-Phasematched Optical Frequency Conversion In Lithium Niobate Waveguides," Stanford University, 1995
		M.L. Bortz; M. Fujimura; and M.M. Fejer, "Increased Acceptance Bandwidth for Quasi-Phasematched Second Harmonic Generation in LiNbO <sub>3</sub> Waveguides," Electronics Letters, Vol. 30, 1/6/1994, pp. 34-5
	M	L. Becouarn, et al., "Cascaded Second-Harmonic and Sum-Frequency Generation of a CO <sub>2</sub> Laser Using a Single Quasi-Phasematched GaAs Crystal," Conference on Lasers and Electro-Optics, IEEE, Vol. 6, pp. 146-7, 1998
		C.Q. Xu; H. Okayama; and M. Kawahara, "1.5μm Band Efficient Broadband Wavelength Conversion By Difference Frequency Generation in a Periodically Domain-Inverted LiNbO <sub>3</sub> Channel Waveguide," Applied Physics Letters, Vol. 63, 27 Dec. 1993, pp. 3559-61
	N	C.Q. Xu; H. Okayama; and M. Kawahara, "Efficient Broadband Wavelength Converter for WDM Optical Communication Systems," Conference on Optical Fiber Communication, IEEE, 20-25 Feb. 1994
		M.H. Chou; I. Brener; M.M. Fejer; E.E. Chaban; and S.B. Christman, "1.5-μm-Band Wavelength Conversion Based on Cascaded Second-Order Nonlinearity in LiNbO <sub>3</sub> Waveguides," IEEE Photonics Technology Letters, Vol. 11, No. 6, June 1999, pp. 653-5

To the extent required, please treat this paper as a conditional information disclosure statement.



**Part II (Payment)**

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A check is enclosed as indicated:

- ☒ (X) No fee is due.
- ☐ ( ) The fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) is enclosed (\$240).
- ☐ ( ) The petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) is enclosed (\$130).

**Part III (Certification)**

Pursuant to 37 C.F.R. § 1.97(e), I certify:

- ☒ (X) No certification is necessary.
- ☐ ( )
  - (1) Each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement.
  - ☐ ( ) The "communication from a foreign patent office" referred to in the certification is an International Search Report, possibly issued by the U.S. Patent and Trademark Office in its capacity as an International Search Authority or International Preliminary Examining Authority.
  - ☐ ( ) The "counterpart foreign application" referred to in the certification corresponds to an ancestor or descendent application of the application for which this information disclosure statement is filed.
- ☐ ( )
  - (2) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c), more than three months prior to the filing of the statement.


**Part IV (Additional Statement)**

An additional statement regarding these items of information ☐ ( ) is, ☒ (X) is not, enclosed.

Copies of the cited art ☒ (X) are enclosed, ☐ ( ) are of record in parent application Serial No. \_\_\_\_\_ and will be provided if the Examiner deems it convenient.

Dated: 24 Aug. 2001

Respectfully submitted,

  
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	O	M.H. Chou; J. Haude, M.A. Arbore; and M.M. Fejer, "1.5- $\mu$ m Band Wavelength Conversion Based on Difference-Frequency Generation in LiNbO <sub>3</sub> Waveguides with Integrated Coupling Structures," Optics Letters, Vol, 23, No. 13, July 1, 1998, pp.1004-6
<b>EXAMINER</b>		<b>DATE CONSIDERED</b>
<p>* <b>EXAMINER:</b> Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>		

